## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **Listing of Claims:**

Claim 1. (currently amended) In a multi-protocol label switching system (MPLS) data network comprised of a plurality of data switches that are interconnected to form a plurality of data paths from a source node to a destination node through a first set of data switches, a method of establishing a <u>data flow over a protection path from said a</u> source switch to <u>said a</u> destination switch through a second set of switches, said method <u>comprises comprised of the steps of</u>:

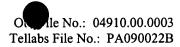
- a. sending a first predetermined control message, over a first data path from said a first switch to a second switch, said first predetermined message establishing at least a working path and a protection path through said network between said first and second switches.
- b. sending a second predetermined control message, over a second data path from said second switch to said first switch, said second predetermined message establishing at least a protection a reverse notification path through said network between said second and said first and second switches; and
- c. associating said first working path to said protection path sending a third message over said reverse notification path, from said second switch to said first switch. to enable control protection switching by said first switch.

Claim 2. (currently amended) The method of claim 1 wherein said step of sending at least a first predetermined message is comprised of the step of adding a protection messaging field to a label distribution protocol (LDP) message, said protection messaging field carrying protection pathway information between MPLS network switch elements.

Claim 3. (currently amended) The method of claim 1 wherein said step of sending at least a first predetermined message is comprised of the step of adding a protection messaging field in an

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MPLS reservation protocol message (RSVP), said protection field carrying protection pathway information between MPLS network switch elements.

Claim 4. (currently amended) The method of claim 1 wherein said step of sending at least a first predetermined message, over a first data path from said first switch to a second switch, said first predetermined message establishing at least a working path and a protection path through said network between said first and second switches includes the step of:

identifying at least one data switch of said an MPLS network as a switch element by the contents of at least one control field in a message field of an MPLS message;

sending said at least one control field to at least one data switch of said MPLS network.

Claim 5. (currently amended) The method of claim 1 wherein said step of sending at least a first predetermined message, over a first data path from said first switch to a second switch, said first predetermined message establishing at least a working path and a protection path through said network between said first and second switches includes the step of:

identifying at least one data switch of said an MPLS network as a protection switch element by the contents of at least one control field in a message field of an MPLS message;

sending said at least one control field to at least one data switch of said MPLS network.

Claim 6. (currently amended) The method of claim 1 wherein said further including the step of label binding said first predetermined message from said second switch to a third switch.

- Claim 7. (currently amended) The method of claim 1 wherein said first data working path is set up loosely.
- Claim 8. (currently amended) The method of claim 1 wherein said first data working path is set up explicitly.
- Claim 9. (currently amended) The method of claim 1 further including the step of mapping labels to data routed along said first data working path according to predetermined criteria that includes the quality of service to be granted said data.

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Claim 10. (currently amended) In a multi-protocol label switching system (MPLS) data network comprised of a plurality of data switches that are interconnected to form a plurality of data paths from a source node to a destination node through a first set of said data switches, a method of establishing a routing data from a working path through said network to a protection path through said network from said a source switch to said a destination switch through said first set of switches, said method comprising: comprised of the steps of:

- a. sending at least a first predetermined control message, over a first control path from said a first switch to a second switch, said first predetermined control message establishing at least a working path and a separate protection path through said network between said first and second switches; over which data is to be sent from said source switch to said destination switch.
- b. <u>sending a second predetermined control message, from said second switch to said</u>

  <u>first switch, said second predetermined message establishing a reverse notification</u>

  path through said network between said second and said first switches; and
- c. sending a third message over said reverse notification path from said second switch to said first switch, the interruption of which controls protection switching by said first switch.

Claim 11. (currently amended) The method of claim 10 wherein said step of sending at least a first predetermined control message is comprised of the step of comprises: adding a protection messaging field to a label distribution protocol (LDP) message, said protection messaging field carrying protection pathway information between MPLS network switch elements.

Claim 12. (currently amended) The method of claim 10 wherein said step of sending at least a first predetermined control message is comprised of the step of comprises: adding a protection messaging field in an MPLS reservation protocol message (RSVP), said protection field carrying protection pathway information between MPLS network switch elements.

Claim 13. (currently amended) The method of claim 10 wherein said step of sending at least a first predetermined control message, over a first data path from said a first switch to a

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second switch, said first predetermined control message establishing at least a protection path through said network between said first and second switches includes the step of:

identifying at least one data switch of said MPLS network as a protection switch element by the contents of at least one data field in a message field of an MPLS message;

sending said at least one data field to at least one data switch of said MPLS network.

Claim 14. (currently amended) The method of claim 10 wherein said first data-working path is set up loosely.

Claim 15. (currently amended) The method of claim 10 wherein said first data working path is set up explicitly.

Claim 16. (currently amended) The method of claim 10 further including the step of: mapping labels to data routed along said first control working path according to predetermined criteria that includes the quality of service to be granted said routed data.